इंटरनेट मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”
Mazdoor Kisan Shakti Sangathan
“The Right to Information, The Right to Live”

“पुराने को छोड नये के तरफ”
Jawaharlal Nehru
“Step Out From the Old to the New”

IS 2869 (1964): Canned Orange Segments [FAD 10: Processed Fruits and Vegetable Products]

“ज्ञान से एक नये भारत का निर्माण”
Satyanarayan Gangaram Pitroda
“Invent a New India Using Knowledge”

Act Number 22 of 2005
The Indian Parliament
RIGHT TO INFORMATION

Made Available By
Public.Resource.Org

“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”
Bhartṛhari—Nītiśatakam
“Knowledge is such a treasure which cannot be stolen”

BLANK PAGE

BRUTUM FULMEN

IGNORANTIA JURIS NON EXCUSAT

PROTECTED BY COPYRIGHT

~~REAFFIRMED~~

IS : 2869 - 1964

REAFFIRMED 2009

Indian Standard

SPECIFICATION FOR CANNED ORANGE SEGMENTS

(First Reprint JUNE 1983)

UDC 664·831·86 : 620·1

© *Copyright* 1965

INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Gr 5

January 1965

Indian Standard

SPECIFICATION FOR CANNED ORANGE SEGMENTS

Fruits and Vegetables Sectional Committee, AFDC 23

Chairman	*Representing*
SHRI R. T. MIRCHANDANI	Directorate of Marketing & Inspection (Ministry of Food & Agriculture), Nagpur
Members	
SENIOR MARKETING OFFICER (FRUIT PRODUCTS) (*Alternate* to Shri R. T. Mirchandani)	
SHRI P. D. BHARGAVA	Development Council for Food Processing Industries (Ministry of Industry & Supply)
DR. B. CHOUDHURY	Indian Agricultural Research Institute, New Delhi
DR. T. K. GHOSE	Jadavpur University, Calcutta
HORTICULTURIST	Agriculture Department, Government of Assam, Gauhati
HORTICULTURIST	Agriculture Department, Government of Maharashtra, Poona
HORTICULTURIST	State Horticultural Research Station, Government of West Bengal, Krishnagar
HORTICULTURIST AND ASSOCIATE PROFESSOR OF HORTICULTURE, AGRICULTURAL COLLEGE & RESEARCH INSTITUTE, COIMBATORE	Agriculture Department, Government of Madras, Madras
SHRI S. L. KATYAL	Indian Council of Agricultural Research, New Delhi
COL M. N. KUNZRU	Technical Standardization Committee (Foodstuffs) (Ministry of Food & Agriculture)
DR. P. K. KYMAL (*Alternate*)	
DR. D. S. PATEL	Pure Products & Madhu Canning Private Ltd., Bombay
SHRI M. V. PHADNIS	Nagpur Orange Growers' Co-operative Association Ltd., Nagpur
SHRI B. B. SARDESHPANDE	All India Food Preservers' Association, Bombay
SHRI R. N. GOYLE (*Alternate*)	
SHRI SATWANT SINGH	In personal capacity (*Nasirpur Farm, P. O. Bahadurgarh Fort, Patiala*)
DR. G. S. SIDDAPPA	Central Food Technological Research Institute, Mysore
SHRI H. C. BHATNAGAR (*Alternate*)	

(*Continued on page* 2)

INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI

(*Continued from page* 1)

Members	*Representing*
Dr. D. N. Srivastava	Directorate of Fruit Utilization, Government of Uttar Pradesh, Ranikhet
Shri Dayanand (*Alternate*)	
Dr. Y. K. Subrahmanyam	Central Committee for Food Standards (Ministry of Health), New Delhi
Shri L. J. Taylor	Hindustan Lever Limited, Bombay
Vegetable Botanist	Agriculture Department, Government of Punjab, Chandigarh
Dr. D. V. Karmarkar, Deputy Director (Agri & Food)	Director, ISI (*Ex-officio Member*)

Secretary
Shri G. S. Vilkhu
Extra Assistant Director (Agri & Food), ISI

Processed Fruits and Vegetables Subcommittee, AFDC 23:3

Convener	
Shri K. U. Patel	Tims Products Ltd., Calcutta
Members	
Agricultural Marketing Adviser to the Government of India	Directorate of Marketing & Inspection, (Ministry of Food & Agriculture), Nagpur
Shri S. C. Bhattacharjya (*Alternate*)	
Shri P. D. Bhargava	The Midland Fruit and Vegetable Products, India, Mathura; *and* Development Council for Food Processing Industries (Ministry of Industry & Supply)
Shri M. I. David	The Canning Industries Cochin Limited, Trichur
Shri C. V. Paul (*Alternate*)	
Col A. G. Fernandes	Army Headquarters (Ministry of Defence)
Lt-Col N. G. C. Iengar (*Alternate*)	
Dr. T. K. Ghose	Jadavpur University, Calcutta
Shri Girdhari Lall	Provision Merchants Association, Delhi
Shri M. S. Kohli	Nagpur Orange Growers Co-operative Association Ltd., Nagpur
Dr. P. K. Kymal	Technical Standardization Committee (Foodstuffs) (Ministry of Food & Agriculture)
Dr. D. S. Patel	Pure Products & Madhu Canning Private Ltd., Bombay
Shri N. S. Pochkhanwala	D & P Products Private Ltd., Bombay
Shri L. J. D'Souza (*Alternate*)	
Dr. G. S. Siddappa	Central Food Technological Research Institute, Mysore
Shri H. C. Bhatnagar (*Alternate*)	
Dr. Y. K. Subrahmanyam	Central Committee for Food Standards (Ministry of Health), New Delhi
Shri D. S. Chadha (*Alternate*)	
Shri L. J. Taylor	Hindustan Lever Limited, Bombay
Dr. H. C. Srivastava (*Alternate*)	
Dr. P. K. Vijayaraghavan	Research & Development Organisation, Ministry of Defence
Dr. T. R. Sharma (*Alternate*)	

AMENDMENT NO. 1 JANUARY 1983

TO

IS:2869-1964 SPECIFICATION FOR CANNED ORANGE SEGMENTS

Alterations

(*Page 8, clause 6.1.1, first sentence*) - Substitute the following for the existing sentence:

'The material should be packed in tin containers made of electrolytic tin plate and hermetically sealed.'

(*Page 8, foot-note with '*' and '†' marks*) - Delete.

(AFDC 23)

Printed at Simco Printing Press, Delhi, India

AMENDMENT NO. 2 MAY 1996
TO
IS 2869 : 1964 SPECIFICATION FOR CANNED ORANGE SEGMENTS

(*Page* 3, *clause* **0.4**) — Insert the following new clause after **0.4** and renumber the subsequent clause:

'**0.5** A scheme for labelling environment friendly products known as ECO-Mark has been introduced at the instance of the Ministry of Environment and Forests (MEF), Government of India. The ECO-Mark shall be administered by the Bureau of Indian Standards (BIS) under the *BIS Act*, 1986 as per the Resolution No. 71 dated 20 February 1991 and Resolution No. 425 dated 28 October 1992 published in the Gazette of the Government of India. For a product to be eligible for marking with the ECO-Mark it shall also carry the Standard Mark of BIS for quality besides meeting additional environment friendly (EF) requirements. The environment friendly requirements for canned orange segments are, therefore, included through Amendment No. 2 to this standard.

This amendment is based on the Gazette Notification No. 624 (E) dated 6 September 1995 for Labelling Beverages, Infant Foods, Processed Fruits and Vegetable Products as environment friendly, published in the Gazette of the Government of India.'

(*Page* 7, *clause* **5.5.5**) — Insert the following new matter after **5.5.5**:

"**5.6 Additional Requirements for ECO-Mark**

5.6.1 *General Requirements*

5.6.1.1 The product shall conform to the requirements prescribed under **5.1** to **5.5.5**.

5.6.1.2 The manufacturer shall produce the consent clearance as per the provisions of *Water (PCP) Act*, 1974, *Water (PCP) Cess Act*, 1977 and *Air (PCP) Act*, 1981 along with the authorization if required under *Environment (Protection) Act*, 1986 and the Rules made thereunder to the Bureau of Indian Standards while applying for the ECO-Mark and the product shall also be in accordance with the *Prevention of Food Adulteration Act*, 1954 and the Rules made thereunder. Additionally, FPO 1955 (Fruit Product Order) framed under *Essential Commodities Act*, 1955, *Standards of Weights and Measures Act*, 1977 requirements wherever applicable has to be complied with.

Indian Standard

SPECIFICATION FOR CANNED ORANGE SEGMENTS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 19 September 1964, after the draft finalized by the Fruits and Vegetables Sectional Committee had been approved by the Agricultural and Food Products Division Council.

0.2 Canned orange segments occupy a very prominent place among the processed fruits which are exported from India. There is ample scope for the development of the external as well as the internal trade. It is, however, necessary to ensure the quality of the products, if the demand is to be maintained and further developed. In order to ensure maintenance of proper quality, it is necessary to have strict quality control based on specifications. It was, therefore, found necessary to formulate an Indian Standard specification for this product.

0.3 In the preparation of this standard, due consideration has been given to the provisions of the Prevention of Food Adulteration Act, 1954; the Prevention of Food Adulteration Rules, 1955 and the Fruit Products Order, 1955. However, this standard is subject to the restrictions imposed under these, wherever applicable.

0.4 In this standard the trade designations and the trade sizes, along with the converted metric values, of the containers as at present being used within the country have been specified. These dimensions would be revised as and when an Indian Standard on open top sanitary cans is published.

0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

---

*Rules for rounding off numerical values (*revised*).

1. SCOPE

1.1 This standard prescribes the requirements for canned orange segments (*Citrus sp.*) in syrup.

2. TERMINOLOGY

2.0 For the purpose of this standard, the following definitions shall apply.

2.1 Cut-Out Syrup — The syrup obtained after cutting open the can and draining the product.

2.2 Head Space — The distance between the top of the double seam and the level of the surface of the contents.

2.3 Absence of Defects — Freedom from extraneous materials, such as albedo, seeds, peels, membrane and core, and also freedom from damage due to mechanical injury.

2.4 Blemished Units — Processed units that are affected with some injury, such as discolouration, pathological or hail injury, and other abnormality readily visible to the naked eye to a noticeable degree.

3. TYPES

3.1 Oranges of only Mandarins or Tangerine (loose-skinned type), *Citrus reticulata* Blanco., commonly known as '*SANTRA*' or sweet oranges (tight-skinned type), *Citrus sinensis* (Linn.) Osbeck, commonly known as '*MALTA*' or '*MOSAMBI*' or '*SATHGUDI*' shall be used for canning orange segments. Bitter oranges shall not be used for canning.

4. GRADES

4.1 Canned orange segments shall be of two grades, namely, Grade 1 and Grade 2.

5. REQUIREMENTS

5.1 Hygienic Requirements — The material shall be prepared and handled under strict hygienic conditions by persons free from contagious and infectious diseases and only in premises maintained in a thoroughly clean and hygienic condition and having adequate and safe water supply and duly approved and licensed by the public health authorities concerned. All workers shall use clean, white, washed clothing. Necessary precautions shall be taken to prevent incidental contamination of the product from soiled equipment or from personnel suffering from injuries.

5.1.1 All equipment coming in contact with raw materials or products in the course of manufacture shall be kept clean. An ample supply of steam and water, hose, brushes and other equipment necessary for proper cleaning of machinery and equipment shall be available. The equipment may be sterilized by immersion in, or swabbing with hypochlorite or other suitable chlorine solution (*see* IS : 2491-1963*).

5.2 General — Canned orange segments shall be prepared from fresh oranges picked at the proper stage of maturity and of the same variety. The oranges shall be peeled and separated into segments. The membrane of the segments shall be removed by lye-treatment and the segments washed carefully free from alkali and the seeds removed.

5.3 Freedom from Artificial Colouring Matter, Flavouring and Synthetic Sweetening Agents — The material shall be free from artificial colouring matter and flavouring and synthetic sweetening agents.

5.4 Requirements for Covering Syrup — The covering syrup shall be clear. It shall be made from cane sugar. The only substances that may be added to the covering syrup are citric acid, and/or ascorbic acid.

5.5 Requirements for the Finished Product — The contents of the can on opening shall display the following characteristics:

Grade 1 — The segments shall possess a good, characteristic, practically uniform colour; shall be practically uniform in size and symmetry; shall be practically free from defects and practically be intact; shall possess a juicy, succulent texture and normal characteristic flavour, and shall score not less than 85 points.

Grade 2 — The segments shall possess a good, characteristic, reasonably uniform colour; shall be reasonably uniform in size and symmetry; shall be reasonably free from defects and reasonably intact; possess a juicy, succulent texture and normal characteristic flavour, and shall score not less than 75 points.

The maximum and minimum number of points to be scored by different factors shall be as follows:

	Maximum	*Minimum*	
		Grade 1	Grade 2
Colour	20	15	13
Texture and uniformity of size	25	19	16
Taste and flavour	20	15	13
Absence of defects	35	26	23

Scoring shall be done according to the method prescribed in Appendix A.

---

*Code for sanitary conditions for food processing units.

5.5.1 *Colour*

Grade 1 — The segments shall possess a good, practically uniform colour characteristic of well-matured fruit, which means that the colour shall be bright, practically free from any discolouration due to over-maturity, oxidation, processing or other causes.

Grade 2 — The segments shall possess a good and reasonably uniform colour, which means that the colour shall be reasonably bright and characteristic of matured fruit, but may vary slightly in shades of the typical colour and the fruit shall be reasonably free from discolouration due to oxidation, processing or other causes.

5.5.2 *Texture and Uniformity of Size*

Grade 1 — The segments shall possess normal succulent texture, which means that the segments are juicy and firm, reasonably free from fibre and may be soft, but not broken. They shall be practically uniform in size.

Grade 2 — The segments shall possess a reasonably succulent texture, which means that the segments shall be juicy and soft, but not broken or disintegrated to the extent that their normal shape is altered, they may be slightly firm indicating that the fruit is reasonably mature. They shall be reasonably uniform in size.

5.5.3 *Taste and Flavour*

Grade 1 — The segments shall practically possess pleasant aroma and flavour characteristic of sweetened oranges. They shall be free from flavour of caramelization or scorching. The taste shall be sweet characteristic of the fruit canned; shall not be bitter; shall be free from metallic taste or staleness. The segments shall be completely devoid of any objectionable or off-taste, smell or odour indicative of unripe (sour) fruit.

Grade 2 — The segments shall possess pleasant aroma and flavour characteristic of sweetened oranges. They shall be practically free from flavour of caramelization or scorching. The taste shall be sweet characteristic of the fruit canned and shall not be bitter; shall be free from metallic taste or staleness. The segments shall be devoid of any objectionable, or off-taste and reasonably free from smell or odour indicative of unripe (sour) fruit.

5.5.4 *Absence of Defects*

Grade 1 — The segments shall be practically free from defects, which presume that not more than 5 percent by count of the segments are disintegrated, crushed or broken; no peel, seed or rag is present, no extraneous material is present; not more than 5 percent by count of the segments are blemished; no segments are trimmed to the extent that the shape of the unit is destroyed. The covering syrup shall be practically clear, practically free from cloudiness, blackening or thickening and shall be practically free from fruit pulp.

Grade 2 — The segments shall be reasonably free from defects, which means that not more than 10 percent by count of the segments are disintegrated, crushed or broken; no peel, seed or rag is present, no extraneous material is present; not more than 10 percent by count of the segments are blemished. The covering syrup shall be reasonably clear, reasonably free from cloudiness, blackening or thickening and reasonably free from fruit pulp.

5.5.5 The material shall also conform to the requirements prescribed in Table 1.

TABLE 1 REQUIREMENTS FOR CANNED ORANGE SEGMENTS

SL No.	CHARACTERISTIC	REQUIREMENT	METHOD OF TEST (REF TO CL NO. OF IS : 2860-1964*)
(1)	(2)	(3)	(4)
i)	Vacuum of the can in mm, *Min*	125	5
ii)	Head space of the can in mm, *Max*	16	6
iii)	Drained weight of the contents of the can, as percentage of net weight, *Min*	50	7
iv)	*p*H of the cut-out syrup, *Max*	4·5	8
v)	Specific gravity of cut-out syrup (Brix)	1·07-1·09 (19°-23°)	9
vi)	Acidity of the cut-out syrup, as anhydrous citric acid, percent by weight, *Max*	0·2-0·8	10
vii)	Arsenic, ppm, *Max*	1·1	13
viii)	Lead, ppm, *Max*	2·5	14
ix)	Copper, ppm, *Max*	30	15
x)	Zinc, ppm, *Max*	19	16
xi)	Tin, ppm, *Max*	250	17
xii)	Microbiological requirements	To satisfy the requirements of the test	18

---

*Methods of sampling and test for processed fruits and vegetables.

. PACKING AND MARKING

.1 Packing

6.1.1 The material shall be packed in cans made of tinplate conforming to Charcoal Grade 2(C_2) of IS : 597-1962*, or IS: 1993-1962†. The cans shall be either plain or lacquered internally and hermetically sealed. When lacquered externally, the portion under the label, excepting the side seam, shall also be lacquered. The internal lacquer shall be acid resistant and such that it will not be destroyed, altered or its components transferred to the material inside the can during processing or subsequent storage or transport. The can exterior shall be free from dents, rust, perforations and seam distortions. The cans shall not show leaking, panelling or swell. The interior of the can shall not show any visible black discolouration, rusting or pitting and the inside lacquer shall be in good condition. Normal feathering shall not be considered as a defect.

6.1.2 The cans shall be filled with the fruit, without impairment of quality. The size of the cans used and the net weight of their contents shall ordinarily be as given in Table 2. In case containers other than hose specified in Table 2 are used, the size of the container and the net weight of the contents shall be as agreed to between the purchaser and he vendor.

TABLE 2 SIZES AND CAPACITIES OF CANS

SL No.	CONTAINER (TRADE NAME)	TRADE SIZE	NOMINAL DIAMETER mm	NOMINAL HEIGHT mm	NET WEIGHT OF CONTENTS g
(1)	(2)	(3)	(4)	(5)	(6)
i)	8-oz Flat	301 × 206	77·8	60·3	220
ii)	11-oz Can	301 × 303·5	77·8	81·8	295
iii)	No. 1 Tall	301 × 409	77·8	115·9	454
iv)	1-lb Butter Size	401 × 300	103·2	76·2	510
v)	A-2	307 × 408	87·3	114·3	570
vi)	A-2½	401 × 411	103·2	119·1	850
vii)	7-lb Jam	603 × 513	157·2	147·6	2 440
viii)	Large	509 × 703	141·3	182·6	2 850

6.1.3 *Packing in Cases* — The cans shall be packed as agreed to between the purchaser and the vendor.

.2 Marking — Each can shall be marked with the following particulars:

a) Name, type and grade of the material with the brand name, if any;

---

*Specification for black plate for tinning and tinplate (pack-rolled) (*revised*).

†Specification for cold-reduced tin plate and cold-reduced black plate.

b) Name and address of the manufacturer;

c) Net weight of the contents of the can in grams;

d) Date of manufacture or code number indicating the date of manufacture;

e) List of additives, if used; and

f) Manufacturing licence number.

6.2.1 Each packing case shall also be marked with the following particulars:

a) Name of the product;

b) Name of the manufacturer;

c) Manufacturing licence number; and

d) Number of cans × weight of each can.

7. SAMPLING

7.1 The method of drawing representative samples of the material and the criteria for conformity shall be as prescribed in 3 of IS : 2860-1964*.

8. TESTS

8.1 The samples of canned orange segments shall be tested for ascertaining conformity of the material to the requirements of this specification by the methods given in IS : 2860-1964*. Reference to the relevant clauses is given in col 4 of Table 1.

APPENDIX A

(*Clause* 5.5)

DETERMINATION OF GRADE OF THE PRODUCT

A-1. APPARATUS

A-1.1 White Porcelain Bowls — big enough to hold the contents of the can under examination.

A-1.2 Stainless Steel Spoons — table spoons (*see* IS : 990-1957†).

---

*Methods of sampling and test for processed fruits and vegetables.

†Specification for spoons, stainless steel.

A-2. PROCEDURE

A-2.1 Panel of Judges — Judging for grading the product shall be done by a panel of three to five judges. All the judges constituting a panel shall be conversant with the factors governing the quality of the product. The cans shall be opened and the contents poured separately into white porcelain bowls. Each judge shall independently examine the contents from each of the cans and assign scores for different characteristics.

A-2.1.1 The judges shall consider the following characteristics: colour, texture and uniformity of size, taste and flavour, and absence of defects.

A-2.2 System of Scoring — The variations within each factor are so described that the scores may be ascertained for each factor and expressed numerically. The relative importance of each factor has been expressed numerically on a scale of 100. Each judge shall give a score for the individual factors by the method described in Table 3 (*see* P 12) and record his observations in the Score Sheet for Individual Judge (*see* P 14).

A-2.2.1 The scores as number of points given on the Score Sheet (*see* P 14) by the judges for the contents of each can for the four factors shall be recorded in a tabular form in the Score Card (*see* P 15) and the average score calculated for each factor with overall average for each can entered in the appropriate column of the Score Card after complying with the conditions specified in **A-2.3.1** and **A-2.3.2**.

A-2.3 Ascertaining the Grade

A-2.3.1 *Agreement among Judges* — To ascertain the consistency of judgement among the judges, the total score assigned by each of them for the contents of the same can shall be calculated by adding up the scores for the various individual characteristics. If the difference between the maximum and the minimum of the total score so obtained does not exceed ($K + 5$), where K is the number of judges, the scoring shall be deemed as consistent for the can under consideration. If the difference exceeds ($K + 5$), the most outlying score, that is, the one which is farthest from its immediate neighbour (the scores being arranged in one order) shall be discarded and the consistency among the remaining judges shall be examined.

A-2.3.2 When the consistency (*see* **A-2.3.1**) is thus established, the overall average scores given by the judges whose scoring has been found to be consistent shall be calculated for each can. The average score for each of the individual characteristics shall also be calculated by taking into account the corresponding scores given by the same judges for the contents of the same can.

A-2.3.3 *Assignment of Grade* — In order to assign a grade for the contents of a can, the following procedure shall be adopted:

> *For Grade 1* — The score for each factor individually shall be not less than 75 percent of the maximum score obtainable, and the overall average score shall be not less than 85 points.
>
> *For Grade 2* — The score for each factor individually shall be not less than 65 percent of the maximum score obtainable, and the overall average score shall be not less than 75 points.

TABLE 3 METHOD FOR GIVING SCORES FOR CANNED ORANGE SEGMENTS

(*Clause* A-2.2)

ORGANOLEPTIC CHARACTERISTIC	REQUIREMENTS	MAXIMUM NUMBER OF POINTS	PROPERTIES WHICH REDUCE THE VALUE	POINTS REDUCING THE VALUE UP TO
(1)	(2)	(3)	(4)	(5)
Colour	Good, uniform, characteristic of the variety and well-matured fruit; free from discolouration due to over-maturity, oxidation, processing or other causes.	20	Not quite uniform, slightly varying shades of the characteristic colour, slightly discoloured.	15
			Not very bright, not very uniform, reasonably varying in the shades of characteristic colour, a little discolouration.	13
			Dull, non-uniform, varying considerably in shades, discolouration (total).	0
*Texture and uniformity of size	Normal succulent texture, which means that the units are juicy and firm, unbroken; uniform in size.	25	Not quite succulent units, soft but not broken; just uniform in size.	19
			Units not succulent but just firm indicative of reasonably mature fruit. Units slightly varying in size.	16
			Firm, broken, misshapped units. Non-uniform in size.	0
Taste and flavour	Pleasant aroma and flavour characteristic of sweetened oranges, free from flavour of caramelization or scorching. Taste characteristic of the	20	A tinge of flavour of caramelization, slight smell indicative of unripe (sour) fruit.	15
			Slight flavour of caramelization, slightly off-taste due to metallic contamination, mildly sour smell.	13

(*Continued*)

TABLE 3 METHOD FOR GIVING SCORES FOR CANNED ORANGE SEGMENTS — *Contd*

ORGANOLEPTIC CHARACTERISTIC	REQUIREMENTS	MAXIMUM NUMBER OF POINTS	PROPERTIES WHICH REDUCE THE VALUE	POINTS REDUCING THE VALUE UP TO
(1)	(2)	(3)	(4)	(5)
	oranges used for canning; shall not be bitter; shall be free from metallic taste, staleness or any objectionable or off-taste, smell or odour indicative of unripe (sour) fruit.		Objectionable or off-taste; smell of staleness, or strong smell of unripe sour fruit.	0
†Absence of defects	Free from defects; free from crushed or broken units, or harmless extraneous material. No unit trimmed to the extent that normal shape of the unit is destroyed. Covering syrup shall be clear free from cloudiness, blackening or thickening, from pulp, etc.	35	Disintegrated, crushed or broken units up to 5 percent by count; blemished units up to 5 percent by count; syrup with stray particles of pulp.	26
			Disintegrated, crushed or broken units up to 10 percent by count; blemished units up to 10 percent by count. Syrup with a few particles of pulp.	23
			Blemished and broken or disintegrated units each more than 10 percent by count; syrup cloudy and thick.	0

*While rating 'Texture and uniformity of size', texture may be allotted 15 points and uniformity of size, 10 points.

†While rating for 'Absence of defects', a tentative maximum score of 15 points for absence of blemishes; 5 for absence of peel, seed, albedo, membrane, core, etc; 5 for absence of harmless extraneous material and 10 for clarity of covering syrup may be considered.

SCORE SHEET FOR INDIVIDUAL JUDGE

Sample No.........................

Date of Sampling.................

DETAILS OF THE SAMPLE: a) Product.................. b) Name of Manufacturer.............. c) Type..............

d) Batch No............... e) Date of Manufacture..................

FACTORS	SCORE POINTS	SAMPLE CANS									
		1	2	3	4	5	6	7	8	9	10
Colour	Grade 1 : 15-20 Grade 2 : 13-14										
Texture and uniformity of size	Grade 1 : 19-25 Grade 2 : 16-18										
Taste and flavour	Grade 1 : 15-20 Grade 2 : 13-14										
Absence of defects	Grade 1 : 26-35 Grade 2 : 23-25										

Signature of the

Judge with Date............................

SCORE CARD

Sample Number..............................

Date of Sampling..............................

DETAILS OF THE SAMPLE CAN: a) Product.......................... b) Name of Manufacturer.......................... c) Type..........................

d) Batch No.......................... e) Date of Manufacture..........................

Factor	Colour					Texture and Size					Taste and Flavour					Absence of Defects					Total Scores					Average Score for					Grade of the Can
Judge / Can Number	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	Colour	Texture and Uniformity of Size	Taste and Flavour	Absence of Defects	Total	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

QUANTITY	UNIT	SYMBOL
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

QUANTITY	UNIT	SYMBOL
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

QUANTITY	UNIT	SYMBOL	DEFINITION
Force	newton	N	1 N = 1 kg.m/s^2
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m^2
Frequency	hertz	Hz	1 Hz = 1 c/s (s^{-1})
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m^2

INDIAN STANDARDS INSTITUTION

Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002

Telephones : 26 60 21, 27 01 31 **Telegrams : Manaksanstha**

Regional Offices:

				Telephone
Western	:	Novelty Chambers, Grant Road	BOMBAY 400007	37 97 29
Eastern	:	5 Chowringhee Approach	CALCUTTA 700072	27 50 90
Southern	:	CIT Campus	MADRAS 600113	41 24 42
Northern	:	B69, Phase VII	S. A. S. NAGAR (MOHALI) 160051	—

Branch Offices:

'Pushpak', Nurmohamed Shaikh Marg, Khanpur	AHMADABAD 380001	2 03 91
'F' Block, Unity Bldg, Narasimharaja Square	BANGALORE 560002	22 48 05
Gangotri Complex, Bhadbhada Road, T.T. Nagar	BHOPAL 462003	6 27 16
22E Kalpana Area	BHUBANESHWAR 751014	5 36 27
5-8-56C L. N. Gupta Marg	HYDERABAD 500001	22 10 83
R 14 Yudhister Marg, C Scheme	JAIPUR 302005	6 98 32
117/418 B Sarvodaya Nagar	KANPUR 208005	4 72 92
Patliputra Industrial Estate	PATNA 800013	6 28 08
Hantex Bldg (2nd Floor), Rly Station Road	TRIVANDRUM 695001	32 27

Printed at Simco Printing Press, Delhi, India